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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/667,717	09/22/2003	Ulrich Steegmuller	P2002.0783	9707
24131	7590	08/25/2006		EXAMINER
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HOLLYWOOD, FL 33022-2480			ART UNIT	PAPER NUMBER
			2878	

DATE MAILED: 08/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/667,717	STEEGMULLER ET AL.	
Examiner	Art Unit		
Stephone B. Allen	2878		

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1)  Responsive to communication(s) filed on 03 August 2006.

2a)  This action is **FINAL**.                            2b)  This action is non-final.

3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## **Disposition of Claims**

4)  Claim(s) 1-14, 16, 18 and 20-24 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5)  Claim(s) \_\_\_\_\_ is/are allowed.

6)  Claim(s) 1-14, 16, 18 and 20-24 is/are rejected.

7)  Claim(s) \_\_\_\_\_ is/are objected to.

8)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

9)  The specification is objected to by the Examiner.

10)  The drawing(s) filed on \_\_\_\_\_ is/are: a)  accepted or b)  objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)  The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a)  All    b)  Some \* c)  None of:  
1.  Certified copies of the priority documents have been received.  
2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1)  Notice of References Cited (PTO-892)  
2)  Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3)  Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_  
4)  Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5)  Notice of Informal Patent Application (PTO-152)  
6)  Other: \_\_\_\_\_

## DETAILED ACTION

This is in response to the After-Final amendment filed on August 3, 2006

Applicant's arguments with respect to claim 1-14, 16, 18 and 20-24 have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-14, 16, 18 and 20-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zimmer et al (6873580) in view of Yanagawa et al (6346695) and further in view of Swanson et al (6535473).

With respect to claim 1, Zimmer et al disclose an optical sensing system for reading an optical data memory 52 comprising: a substrate 20 having a main surface extending along a first main plane; an edge-emitting laser component 30 for emitting laser radiation along an irradiation axis oriented essentially parallel to said first main Plane, the edge-emitting laser component is configured on said main surface of said substrate; a deflection device 38 (a mirror) is configured on said main surface of said substrate, wherein said deflection device is for deflecting the laser radiation emitted by said edge-emitting laser component in a direction essentially perpendicular to said main

surface; at least one signal detector 40 for sensing the laser radiation reflected by the optical data memory; and an optical element 14 for guiding the laser radiation deflected by the deflection device to the optical data memory and for guiding the laser radiation reflected by the optical data memory to said at least one signal detector, wherein a supporting element 34, 36 connecting said optical element to said substrate.

Zimmer et al lack a clear teaching of whether or not at least one of the supporting element and/or said deflection device being produced from glass and being non-detachably connected to the substrate. Yanagawa et al disclose an optical pickup system having a deflection device 51 (beam splitter) is made of glass (read col.10, lines 27-59). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Zimmer et al by making said deflection device from glass taught by Yanagawa et al in order to provide a deflection device of which its reflectance is not sensitive to humidity and/or temperature variation and ensure the proper operations of the system. Further citations regarding making the components of the system non-detachable would have been obvious to one of ordinary skill in the art in order to provide stronger formations and/or strong bonding and/or durable components of the system.

The modified Zimmer et al also fail to disclose wherein the supporting element and the deflection device is produced form glass and is non-detachably connected to the substrate by an anodic bond. Swanson et al disclose that it is well known to use anodic bonding to bond glass with some other component. It would have been obvious for one of ordinary skill in the art to bond the components of the modified Zimmer using

anodic bonding as taught in Swanson, in order to provide a strong and secure connection.

With respect to claim 2, per the above discussion, the modified Zimmer et al disclose said deflection device also serves as a supporting element for connecting said optical element to said substrate (fig. 1).

With respect to claim 3, per the above discussion, the modified Zimmer et al disclose said at least one signal detector is an irradiation-direction signal detector 40 configured on said main surface of said substrate wherein said irradiation-direction signal detector is configured on said irradiation axis of said edge-emitting laser component and said irradiation-direction signal detector is configured downstream of · said deflection device with respect to a direction of irradiation of the laser radiation emitted by said edge-emitting laser component.

With respect to claim 4, per the above discussion, the modified Zimmer et al disclose the optical sensing system further comprising: with respect to said edge-emitting laser component, an opposite direction signal detector 42 configured on said main surface of said substrate and on said irradiation axis of said edge-emitting laser component, wherein said opposite-direction signal detector is configured in a direction opposite to a direction of the laser radiation emitted by said edge-emitting laser component.

With respect to claims 5, 8 and 9, per the above discussion, the modified Zimmer et al disclose wherein said supporting element is configured between said edge-emitting laser component and said opposite direction signal detector. The supporting elements

34, 36 are positioned to prevent stray light of the edge-emitting laser component 30 from reaching/receiving by the at least one signal detector 40, 42.

With respect to claims 6 and 7, per the above discussion, the modified Zimmer et al disclose said supporting element has a surface facing said laser component, but fail to teach said surface of said supporting element has a metallic or dielectric mirrored layer. Although the modified Zimmer et al lack a clear teaching of said surface of said supporting element has a metallic or dielectric mirrored layer, using a metallic or dielectric mirrored layer in order to prevent unwanted light from passing said supporting element and avoiding the unwanted light from reaching said opposition-direction signal detector would have been obvious to one of ordinary skilled in the art. It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify Zimmer et al with an inclusion of a metallic or dielectric mirrored layer on said surface of said supporting element in order to prevent unwanted light from reaching said opposite-direction signal detector and ensure a more accurate and proper performance of the optical sensing system.

Further citations in claim 7 regarding said surface of said supporting element has an absorption layer would have been obvious for similar reasons set forth in the above discussion.

With respect to claim 10, per the above discussion, the modified Zimmer et al disclose said at least one signal detector is formed on said substrate.

With respect to claim 11, per the above discussion, the modified Zimmer et al fail to teach said at least one signal detector includes an array of PIN photodiodes formed

in said substrate. Although the modified Zimmer et al lack a clear teaching of an array of PIN photodiodes formed in said substrate, selecting a specific type of photodiodes would have been obvious to one of ordinary skilled in order to provide a better detecting mean. It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify Zimmer et al with an inclusion of an array of PIN photodiodes in order to provide a fast response time and/or high sensitivity detecting mean for the optical sensing system.

With respect to claim 12, per the above discussion, note that the modified Zimmer et al disclose two monitor detectors 90, 92 integrated on the substrate, for controlling the intensity of said edge-emitting laser component. Although the modified Zimmer et al lack a clear teaching of said two monitor detectors are used for checking an irradiation power of said edge-emitting laser component, it would have been obvious to one of ordinary skill in the art at the time of the invention to further modify Zimmer et al accordingly in order to provide a better adjustment of the intensity of said edge-emitting laser component by monitoring and/or checking the irradiation power of the edge-emitting laser component.

With respect to claim 13, per the above discussion, the modified Zimmer et al disclose the optical sensing system further comprising a plurality of detectors 40, 42, 90, 92 the plurality of detectors including the at least one signal detector; a plurality of supporting elements 34, 36, said deflection device embodied as a deflection mirror (col. 2); said plurality of supporting elements are configured beside said deflection mirror; said plurality of detectors are configured between the deflection mirror and said plurality

of supporting elements; the optical element mounted on said plurality of supporting elements (see fig. 1).

With respect to claim 14, per the above discussion, the modified Zimmer et al disclose said substrate is formed by a silicon substrate (col. 2).

With respect to claim 16, per the above discussion, the modified Zimmer et al disclose the main surface has an area as claimed (note that Zimmer et al disclose the H in fig. 1 can be as little as 3.25 mm, wherein according to the ratio, the length and width of 20 is calculated to be 4.50 mm and 1.16 mm respectively which yield an area of 5.22 mm .)

With respect to claims 18 and 20-24, per the above discussion, the modified Zimmer et al's optical sensing system inherently performs the claimed method 18-24 as the proposed system includes all the claimed limitations set forth above. Although Zimmer et al lack a clear inclusion of the specific manner of making/forming and/or installing components of the optical sensing system, selecting a specific manner material and/or size, shape of the components for providing similar expected performance of an optical sensing system would have been obvious to one of ordinary skill in the ad. It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify Zimmer et al accordingly in order to provide more convenience in installation and/or mounting for components of the optical sensing system without altering the basic performance of the optical sensing system.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephone B. Allen whose telephone number is 571-272-2434. The examiner can normally be reached on M-F 08:30-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Epps can be reached on 571-272-2328. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Stephone B. Allen  
Primary Examiner  
Art Unit 2878

sba